

### **Abstract of the Disclosure**

Nitrogen trifluoride is produced with a high yield by the method comprising forming a fast stream of micro droplets of a fused ammonium fluoride salt by rapidly ejecting the fused ammonium fluoride salt into a reactor through a nozzle while circulating the fused ammonium fluoride salt in the reactor from a lower portion to an upper portion; and contacting micro droplets of the fused ammonium fluoride salt with fluorine gas sucked in the reactor through a suction pipe for fluorine by a negative pressure formed around the nozzle due to an ejection of the fused ammonium fluoride salt, whereby excessive generation and regional accumulation of the heat of reaction are prevented, reducing the reaction temperature by 10~30°C compared with those of the existing methods, and a side reaction occurs only to a slight extent according to the lowered reaction temperature.